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TRACELESS TRANSITION METAL CATALYSIS FOR SYNTHETIC APPLICATIONS*

Key words: catalysis, catalytic C–H arylation, catalytically active species, irreproducible syntheses, phantom reactivity.

The report will present current trends in the development of catalytic chemistry and the importance of metal catalysis in organic synthesis.

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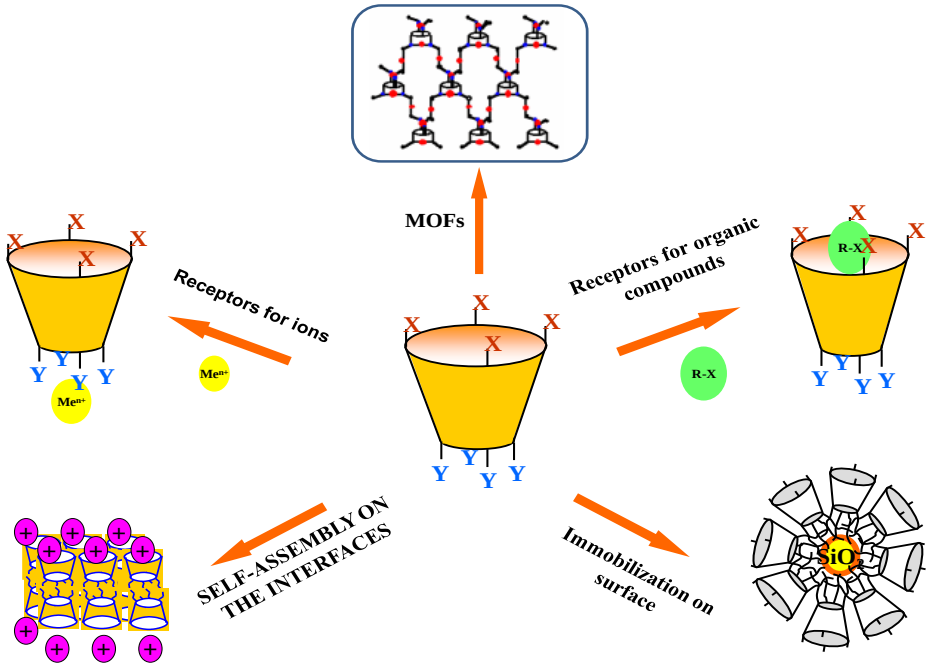
CALIXARENE-BASED SUPRAMOLECULAR SYSTEMS: A PLATFORM FOR NANOMATERIALS DESIGN BY SELF-ASSEMBLY*

Key words: calix[4]arenes, colloid nanoparticles, catalytic systems, smart materials.

Lower rim thiacalix[4]arenes derivatives in *cone* and *1,3-alternate* conformations have many advantages to create a wide range of precursors for the design of very sophisticated supramolecular architectures.



These compounds can be considered as technological platform for nanomaterials design by self-assembly method. Particular attention will be paid to the application of calixarene derivatives for the construction of various supramolecular and nanosystems, devices and smart materials: colloid nanoparticles, catalytic systems, metal-coordinated networks, Langmuir-Blodgett nanolayers, molecular magnets etc.

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FACILE SYNTHESIS OF DIVERSE 1,2,3-TRIAZOLES LINKED TO COMPLEX HETEROCYCLIC SYSTEMS*

Keywords: cycloaddition, copper, 1,2,3-triazole.

After the independent discovery of copper catalyzed azide-alkyne cycloaddition reaction (CuAAC) by the groups of Meldal and Sharpless, a large variety of